SUMMARY

This Draft Environmental Impact Statement/ Draft Environmental Impact Report (DEIS/DEIR) has been prepared to inform the public and decision-makers about the potential environmental effects of the proposed project, and present reasonable alternatives which would avoid or minimize adverse impacts and enhance the quality of the human environment. This DEIS/DEIR is based on the completed technical studies. This document has been prepared in conformance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) requirements to address potential effects of the proposed State Route (SR) 78/111 Brawley Bypass project. This document provides dimensions of features in metric, followed by English units. Figures are placed at the end of each Chapter for the reader's convenience. While CEQA requires that a determination of significant impacts be stated in the EIS/EIR, NEPA does not. Chapter 5 provides discussion of significance of impacts according to CEQA.

The purpose of the Brawley Bypass is to reduce accidents, traffic congestion, and time delays on SR-78 and SR-111 within the city of Brawley. This project is also needed to accommodate increased regional and international traffic due to the North American Free Trade Agreement (NAFTA) and the General Agreement on Tariffs and Trade (GATT). The project is essential in providing transportation continuity between the International border with Mexico and Riverside County.

The proposed action would adopt a new alignment and construct a four-lane expressway in Imperial County, California, from State Route 86 (SR-86) northwest of the city of Brawley, to State Route 111 (SR-111), southeast of the city of Brawley (Figure 1-1 and Figure 1-2). The proposed SR-78/111 expressway, up to about 16 km (10 miles) in length, would supersede the existing state route segments of 78 and 111 in the city of Brawley, and thus is referred to as the Brawley Bypass. The project would adopt a new alignment for SR-78 from either approximately 0.8 km (0.5 miles) south of Baughman Road or Fredricks Road on SR-86 to approximately 0.7 km (0.4 miles) east of the existing east junction of SR-111. The project would also adopt a new alignment for SR-111 from existing SR-111, north of the city of Brawley, to 0.5 km (0.3 miles) north of Mead Road on existing SR-111, south of the city of Brawley (Figure 1-2).

Three alignment alternatives, as well as the No Project Alternative, are under consideration and are shown on Figure 2-2, Figure 2-3A, Figure 2-3B, Figure 2-3C, Figure 2-3D, and Figure 2-3E. The alternatives no longer under consideration would be unable to meet the project objectives and/or would have had greater environmental impacts. These alternatives are discussed in Section 2.3 in this DEIS/DEIR.

Fredricks Alternative (Variation 1& 2)

This alternative would begin at the intersection of SR-86 and Fredricks Road and then continue easterly following the course of the existing Fredricks Road. It would cross the New River south of the privately owned Del Rio Country Club golf course and proceed to the south connecting with SR-111, south of SR-78. Variation 1 of this alternative includes a signalized at-grade intersection at existing SR-111, near Shank Road. Variation 2 of this alternative replaces this intersection with an interchange.

Del Rio Alternative

This alternative would begin at the intersection of SR-86, approximately 80 kilometers (one half mile) north of and parallel to Andre Road, and continue easterly. It would cross the New River between the Del Rio Country Club golf course and the sewage treatment plant, and then continue south connecting with SR-111, south of SR-78.

Del Rio North Alternative

This alternative would cross the New River just north of the sewage treatment plant, and then continue south connecting with SR-111, south of SR-78.

No Build Alternative

This alternative would leave SR-78 and SR-111 in its existing condition.

Mitigation Measures

Table S-1 at the end of this summary identifies project impacts for all alternatives under consideration. For more detailed information regarding the impacts of the project, please see Chapter Four of the EIS/EIR and the technical study reports. During the preparation of the studies for the proposed project, five categories of impact were identified as requiring special focus (land use, farmland, social/economic, biological resources, and visual).

LAND USE AND GROWTH

Land Use Impacts

The Fredricks Alternative would cross the northernmost industrial area within the city of Brawley. By utilizing primarily vacant industrial land, the Fredricks Alternative minimizes the anticipated direct impact of industrial improvements to a full acquisition of one business and partial acquisitions of several other businesses. The majority of these businesses are agricultural support businesses. However, the Fredricks Alternative would have the potential to affect Imperial County's agricultural economic sector should some of the businesses require full acquisition or relocation. The Del Rio Alternative impacts a feedlot as a partial acquisition and an equestrian center/residence as a full acquisition. It also impacts a portion of the privately owned Del Rio Country Club that is used as an agricultural field. The Del Rio North Alternative also impacts the feedlot as a partial acquisition and one farm residence as a full acquisition. The primary land use impact of all the alternatives is to agricultural land.

Each of the project alternatives would impact the canals, drains and access roads associated with agricultural operations, but would ensure their continued operation. Impacts to farmland and the farm economy/ support businesses are addressed below.

Local Plan Consistency

A corridor for the 78/111 Brawley Bypass Expressway Project is shown in the Imperial County General Plan Circulation Element. There are minor conflicts and inconsistencies between the County General Plan Agricultural Element and the build alternatives. Each of the build alternatives would sever agricultural fields, remove high quality farmland, and create crossing difficulties for agricultural vehicles and equipment. Another conflict is a County General Plan stipulation that agriculturally zoned parcels must be at least 16 hectares (40 acres) in size. This limits a property owner's ability to sell a remainder agricultural parcel that has been split by the expressway to another agricultural property owner.

The proposed project is not completely consistent with the city of Brawley General Plan for any of the proposed build alternatives. However, the city of Brawley reviewed the May 1997 Alternatives Analysis Report and concurred with the continued study of the Del Rio, Del Rio North and Fredricks Alternatives. The Del Rio Alternative is currently shown on the Brawley General Plan and neither the Del Rio North nor the Fredricks Alternatives are shown. However, on July 18, 2000 the city of Brawley adopted the Fredricks Alternative Land Use Plan for the Luckey Ranch Specific Plan which, in effect, makes the Del Rio and Del Rio North Alternatives inconsistent with the Brawley General Plan within the area of the Specific Plan. Further, Shank Road is shown as a Major Arterial in the Brawley General Plan. The Fredricks Alternative may adversely affect the operation of Shank Road as a Major Arterial because changes in access, cul-de-sacs and a series of frontage roads are proposed for each of the design variations. The potential impact varies in severity which each variation. Please see Figure 2-5 and Figure 2-6 and Section 4.5.1 for more detail.

The Del Rio and Del Rio North Alternatives are compatible with the 1998 Final Draft Brawley Municipal Airport Master Plan. The Fredricks Alternative impacts the proposed future Runway Protection Zone (RPZ) as shown on Figure 3-8. Caltrans would continue to coordinate with the Imperial County Airport Land Use Commission (ALUC) and Federal Aviation Administration (FAA).

Mitigation Measures

Caltrans will continue to coordinate with City and County officials throughout the life of the project to address local concerns. It is anticipated that the city of Brawley General Plan will be updated to include the preferred build alternative after concurrence on which alternative will be chosen. There are inconsistencies with the local plans, however efforts to minimize these inconsistencies will be addressed during coordination with the city and county.

Growth

All of the build alternatives would have similar growth impacts on a regional basis. Residential growth rates are moderate and the industrial/ commercial sectors growth rates have been slow. Please refer to Section 4.3 for additional information. At the local level there are sections of Prime Farmland located north of the City that could be affected by unplanned development due to the access provided by the proposed project. All three of the build alternatives cross through this Prime Farmland but only the Fredricks Alternative remains within the city of Brawley Sphere of Influence. Although Imperial County could approve urban development within the

unincorporated area, urban development is more likely to occur within a city's Sphere of Influence. Therefore, the Fredricks Alternative is more likely to be growth inducing within the area of Prime Farmland than the Del Rio or Del Rio North Alternatives. The Del Rio and Del Rio North Alternatives, however, would allow for a greater area of urban development in the northeastern section of the City's Sphere of Influence as shown on Figure 3-6. This area is primarily Statewide Important Farmland.

Due to the slow growth of commercial and industrial uses in Imperial County, adverse growth impacts to public services, natural and cultural resources, noise, air, and water quality are not anticipated. Furthermore, there are alternative local routes available that provide access. However, given the strong potential for the growing international market and the sensitivity and importance of the agricultural impacts on a national scale, the build alternatives would potentially cause growth impacts to agricultural land.

Because the timing and scale of secondary growth impacts are subject to the control of the local jurisdictions and economic factors beyond the direct control of Caltrans and FHWA, this project does not bear mitigation responsibility for these secondary impacts. At this point growth inducement is speculative and for most of the area there is no planned or permitted development.

AGRICULTURAL/FARMLAND IMPACTS

All of the build alternatives would impact a large agricultural area. In addition to the direct and indirect acreage impacts, all the build alternatives would bisect some agricultural fields. Bisecting the fields leads to impacts to irrigation systems and farm operations.

The Fredricks Alternative (Variation 1) affects 157 ha (386 acres) of farmland, 66 ha (162 acres) listed as Prime Farmland and 91 ha (224 acres) of Statewide Important Farmland. The Fredricks Alternative (Variation 2) impacts 66 ha (162 acres) of Prime Farmland and 110 ha (272 acres) of Statewide Important Farmland. Both variations potentially impact agricultural support businesses within the city of Brawley which provide essential services to the surrounding agricultural economy. The possible loss or relocation of these businesses may be of greater importance to agricultural production than the direct loss of farmland.

The Del Rio Alternative impacts 57 ha (140 acres) of Prime Farmland and 117 ha (289 acres) of Statewide Important Farmland. The Del Rio North Alternative removes 57 ha (140 acres) of Prime Farmland and 129 ha (319 acres) of Statewide Important Farmland.

Caltrans began early coordination regarding farmland in July 1997 with the Imperial County Natural Resource Conservation Service Office. A completed form AD 1006 is attached in Appendix D. Since the build alternatives all exceed the criteria threshold of 160 points, minimization and mitigation measures are considered.

Mitigation Measures

The Imperial County General Plan has goals supporting farmland preservation and measures to protect farmers. In accordance with the General Plan guidelines, Caltrans would coordinate with Imperial County and appropriate state and federal officials to preserve areas of farmland equal to the amount directly impacted by the project. This could be accomplished by purchasing a

conservation easement on a willing seller's property or by providing funding to a farmland preservation program. At this time, FHWA has not agreed to this mitigation as being eligible for federal aid funding, however; discussions are ongoing with the State to determine its acceptability. If not eligible for federal-aid, funding, Caltrans still plans on funding the mitigation from other sources. For mitigation purposes the conservation easement(s) or funding could be dedicated to the to American Farmland Trust program for lands in Imperial Valley. The implementation of such a plan for agricultural land preservation in of the nation's prime agricultural regions would reduce the farmland impact of the project though it would remain substantial.

SOCIAL AND ECONOMIC IMPACTS

Local Accessibility

All of the build alternatives would affect local farm and farm service access from one side of the project to another, because the expressway is a limited access facility. Access across the expressway would only be provided at the intersections. Legal access to each parcel would be maintained during construction and after the expressway is opened, and therefore access impacts are not considered substantial. The Fredricks Alternative would create access changes discussed in Section 2.2.1, Section 2.2.2, and Section 4.5.1 causing potential economic impacts to businesses in the industrial area near Shank Road.

Public Safety

The build alternatives would improve traffic safety within the project area. The No Build Alternative would not improve traffic safety along the SR-78, SR-111, and SR-86 corridors and on local roads.

Economic Impacts

Business owners in the industrial area along Shank Road and SR-111 and the Del Rio Country Club have expressed concerns over the impacts of the Fredricks Alternative on local access. During ongoing coordination with the city of Brawley and property owners, Caltrans has revised project plans to minimize these potential access impacts and allowed for design exceptions to accommodate the local access. Nevertheless access impacts in the area may impact businesses. If the railroad crossing were not left open at Shank Road, business would be affected in that more time would be required to access these businesses from the local street network.

Under the Fredricks Alternative, Imperial Grain Growers (IGG) would lose the primarily vacant storage area in front of the grain warehouses. One office trailer and paved parking is located in this area. IGG has indicated that this loss of land would preclude planned expansion of their operations and has requested relocation should the Fredricks Alternative be chosen as the preferred alternative. If this has to occur it would be considered a substantial impact to farm-support business. At this time relocation of IGG is not anticipated. IGG processes 19.6 % of the wheat produced in the Imperial Valley. Every effort would be made during the design and construction phases of the project to minimize access impacts to individual businesses.

From a regional perspective, the proposed project could have generally beneficial economic effects. Although all of the build alternatives would remove a small number of jobs from the agricultural sector, new permanent jobs in trade and industry should outweigh this impact. The project would directly create $9,145,000 to $10,954,000 in wage income. These wages would have an additional multiplier effect on service and support jobs resulting in indirect wages of approximately $18,264,000 to $21,876,000.

Based on the acreage impacted, the value of the farmland acquired would be about $1,275,000 for the Fredricks Alternative, $1,410,000 for the Fredricks Alternative with interchange, $1,370,000 for the Del Rio Alternative, and $1,453,000 for the Del Rio North Alternative. These values are estimates for the year 2000. This acreage used for highway right of way would be removed from the property tax rolls. The property tax lost to Imperial County would be 0.14 % of the annual total property tax revenues of over $10,000,000.

Bypass Impacts

There are potential bypass impacts whenever a highway is moved from the center of a community. Highway-oriented businesses may relocate to take advantage of new business locations adjacent to the new facility. Other businesses may seek to relocate to take advantage of improved highway access. Bypass effects can cause either adverse or beneficial impacts to local businesses, land owners, and the city bypassed.

There is a proposed 16 ha/40 acre commercial area designated within the Luckey Ranch Specific Plan at the intersection of existing SR-78 and the proposed expressway as shown in Figure 3-7. This area would allow new businesses wishing to relocate near the proposed project the opportunity to remain within the city of Brawley. Annexation of the active phase of Luckey Ranch into the City is expected in 2001. All of the alternatives would allow for new businesses within the City's Sphere of Influence as shown in Figure 3-6. The Del Rio and Del Rio North Alternatives would encourage this development to the northeast of existing SR-111. Because of its closer proximity to the developed portions of Brawley, the Fredricks Alternative may encourage new businesses within the City's Sphere of Influence on Prime Farmland that is currently designated for agricultural use.

Mitigation Measures

A Business Route designation with gas, food and lodging signs at appropriate intersections of the proposed project, as well as SR-78 (southeast of Brawley), and SR-78/86 (northeast of Brawley), would direct appropriate traffic into the center of the city. Further, Caltrans proposes to fund the construction of an aesthetically pleasing "City of Brawley" sign at the intersection of the SR-78/111 Bypass and SR-78 in the southeast section of Brawley to help mitigate for bypass impacts. By informing drivers of specific facilities (e.g. restaurants, hotels, gas stations, etc.) available in Brawley through signage, there may be less of a detrimental impact on the local community's economy caused by the detour around the city.

Community Cohesion/Character

The build alternatives would move a substantial portion of the through traffic out of the city of Brawley's downtown shopping and civic center. This would improve the community cohesion

and the character of the City. Nearly 70% of the truck traffic is expected to use the proposed Bypass. With the exception of the industrial area on the Fredricks Alternative, and impacts to the Del Rio Country Club by the Del Rio and Fredricks Alternatives, the build alternatives avoid direct impacts to existing communities. The clubhouse area of the Del Rio Country Club would be largely unaffected by either of these alternatives. Therefore, potential impacts to community events held in this location should be of minimal concern.

Homes adjacent to the expressway, would experience an adverse change in character. Each build alternative causes visual and noise impacts to isolated residences farther north of the city of Brawley. These noise and visual impacts represent a change in the rural character for the affected residents and for patrons of the Del Rio Country Club Golf Course. The number of homes affected are few and isolated.

Relocation

The project would relocate one home for both the Del Rio Alternative and the Del Rio North Alternative. No homes would be relocated at the Fredricks Alternative. At the Fredricks Alternative, a total of six business parcels would be impacted. Three businesses would be impacted by the Del Rio Alternative and one business by the Del Rio North Alternative. The Relocation Assistance Program would minimize relocation impacts (further details are provided in Appendix C).

BIOLOGICAL RESOURCES

Sensitive Wildlife

Impacts would occur to the western burrowing owl regardless of the build alternative selected. The impact is considered important because of the sensitivity of the species, the size of the population impacted, and the regional significance of this population. There would be no direct impacts to the Yuma clapper rail for any of the alternatives, but there is potential for indirect impacts during construction and regular use of the Fredricks Alternative, which would cross sensitive woodland and wetland habitat adjacent to the New River. Impacts to breeding southwestern willow flycatchers and their nesting habitat are unlikely for any of the alternatives. There are potential impacts to a winter migrant visitor, the Mountain Plover for all build alternatives. Ongoing extensive coordination with the U.S. Fish and Wildlife Service will determine how to assess the impacts to the plover and whether any mitigation measures are appropriate.

Mitigation Measures

A qualified biologist will survey for, and excavate, owl borrows within the project limits prior to February 1 in the year of construction, according to the methods established by the California Burrowing Owl Consortium. No construction work will be permitted within 75 m (250 feet) of owl nests within the owl breeding season, February 1 through August 31. The resident construction engineer shall provide the district biologist two weeks notice prior to the start of construction. The Caltrans District Biologist will ensure that the installation of artificial burrows occurs.

Mitigation for impacts to wildlife movement will include the installation of 2 m (6 ft) chain-link fencing in areas of habitat in the New River floodplain. The fencing will be positioned to prevent animals from accessing the highway and will direct them under the bridges. For all alternatives, the proposed bridges will provide for retention of upland areas adjacent to the New River.

Vegetation Impact and Mitigation Measures

All build alternatives will impact Salt Cedar dominated woodland adjacent to the New River, canals, and drains (details are shown in Table 4-4). No sensitive plants will be impacted by any alternative. Table 4-4 shows zero impacts to Waters of the U.S for the build alternatives. Wetland impacts are: zero for the Del Rio North Alternative; 0.004 ha (0.01 acre) for the Del Rio Alternative; and 0.17ha (0.42 acre) for both variations of the Fredricks Alternative.

An area of the artificial drainage ditch containing some wetland vegetation would be impacted by the Del Rio Alternative. This area is regularly disturbed by the Imperial County Irrigation District, during routine channel maintenance and is not within the COE's section 404 CWA jurisdictions. Eight mature eucalyptus trees would be removed on the Fredricks Alternative and would be mitigated by planting 15-gallon native trees at a 7:1 ratio. Sixteen date palm trees also impacted by the Fredricks Alternative would be mitigated by planting native trees or palms at a 2:1 ratio. Planted trees would have permanent irrigation, if feasible. All canals and drains that run parallel to the proposed project would not be directly impacted, and will be protected from any construction work as Environmentally Sensitive Areas.

All vegetation within the construction zone will be cleared outside of the breeding season (February 1 to July 31) to avoid impacts to migratory birds and raptors nesting within the project area. If this is not possible, a pre-construction survey will be required to ensure that birds are not nesting in any of the vegetation to be cleared. If birds are nesting, the nest and tree must be designated an Environmentally Sensitive Area and no construction will occur within a radius of 50 m (164 ft) until nesting is complete.

Wetlands will be created and enhanced adjacent to the New River; specific mitigation measures will be developed in coordination with the Army Corps of Engineers (ACOE) for wetlands and Waters of the U.S., and with the California Department of Fish and Game (CDFG) regulated areas. The mitigation for ACOE wetlands and CDFG regulated areas, will be designed to encourage foraging by southwestern willow flycatchers. Included in the design will be salt cedar/exotic removal, along with dense planting of willows (Salix sp.), cottonwoods and other shrubs and medium-sized trees within the New River floodplain.

The Frederick, Del Rio and Del Rio North alternatives each impact less than 0.2 ha (0.5 acres) of wetlands. As such, these alternatives would qualify for Nationwide Permit 14, *Linear Transportation Crossings*.

VISUAL IMPACTS

Adverse visual impacts would result primarily from blocked views, changes in land use patterns, bridges, highway appurtenances, removal or obstruction of existing vertical features in the

landscape such as trees, the elevation of the roadway, abutment fills and alteration of the existing north-south rectilinear landscape patterns.

Mitigation Measures

Mitigation will include plantings and design measures for the following concerns:

- Maintaining visual orientation for the viewer
- View blockage and loss of existing landscaping features
- Noise barriers
- Highway appurtenances such as traffic barriers, signage, and lighting

Mitigation measures will include aesthetic treatment of highway appurtenances and walls, and planting of trees and shrubs with irrigation. Mitigation is discussed in more detail in Section 4.8, Visual Resources.

All visual mitigation features will be implemented with the Caltrans District Landscape Architect's advice and consent.

NOISE

For the build alternatives, all receptors would experience varying degrees of impacts. For the build alternatives, all 24 noise receptor sites would have Leq(h) levels ranging from 59 dBA to 69 dBA. For any of the three alternatives, a maximum of three receptor sites would approach or exceed 67 dBA, which is the noise abatement criteria (NAC) for category B receptors and a maximum of seven receptors will have increases of 12 dBA (substantial increase) or more. Receptors 16, 17, 18 and 19 were selected to investigate changes in the noise levels along SR-78/86 for the build and no-build alternatives. These four receptors are expected to increase by 2 dBA for the build alternatives, with a 3 dBA increase for the no build alternative. The number of homes with noise impacts is low since homes are dispersed throughout this rural area.

Fredricks Road Alternative

This alternative affects a total of ten receptors (1a, 1b, 2, 3, 4, 5, 6, 20, 21, and 22). Three receptors would experience a 12 dBA or more increase (1a, 1b & 2), and none of these receptors would approach or exceed the Noise Abatement Criteria (NAC) of 67 dBA. Receptor 7 will be a full take and is not counted as one of the six that have a substantial increase.

Del Rio Alternative

This alternative would affect a total of twelve receptors (1a, 1b, 2, 8, 9, 10, 12, 13, 14a, 14b, 15, and 22). Nine of these receptors would experience an increase of 12 dBA or more and two of these receptors (14a and 14b) would approach or exceed the NAC of 67 dBA. Receptor 7 will be a full take and is not counted as one of the six that have a substantial increase.

Del Rio North Alternative

This alternative would affect a total of ten receptors (1a, 1b, 2, 8, 11, 12, 13, 14a, 14b, 15, and 22). Five of these receptors (1a, 1b, 2, 12, 14a, and 14b,) would experience an increase of 12 decibels or more, and one of these receptors, (receptor 14a and 14b) would approach or exceed the NAC of 67 dBA.

Abatement Measures

The noise abatement analysis shows that no feasible or reasonable abatement measures exist for the predicted traffic noise. The abatement measures considered included constructing berms or walls within the State Right of Way or on private property. The length of the berms or walls necessary to abate the traffic noise impacts showed they were either too costly (not reasonable) or they would require openings at existing roads and driveways and would therefore not be considered feasible. After the preferred alternative is selected, a more detailed traffic noise analysis will be performed. Results of this supplemental noise analysis will be included in the Final Environmental Impact Statement (FEIS). A final decision on the installation of abatement measures will be made upon completion of the project design and the public involvement process.

AIR QUALITY

The project lies within Imperial County, which forms part of the Salton Sea Air Basin. Imperial County is in an ozone and PM_{10} nonattainment area for both state and federal standards. The city of Brawley is located within an attainment area for the state carbon monoxide standard.

The project would affect carbon monoxide concentrations due to its re-distribution of traffic volumes in the vicinity. The project would divert traffic from the congested route through the city of Brawley onto the proposed project. The study analysis methodology used the Transportation Project-Level Carbon Monoxide Protocol (referenced to as the CO Protocol, dated December 1997) Detailed Analyses (CALINE4, CT-EMFAC7) in estimating carbon monoxide (CO) concentrations. According to the results from the CALINE 4 modeling, carbon monoxide concentrations resulting from the project would increase the background concentration of carbon monoxide only 0.1 to 0.2 ppm and remain below the established State and Federal numerical carbon monoxide standards.

The proposed project is included in the Southern California Association of Governments (SCAG) 2000/2001-2005/2006 Regional Transportation Improvement Program (RTIP). The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) made a conformity determination on the SCAG 2000/2001-2005/2006 RTIP on October 6, 2000 and the Regional Transportation Plan (RTP) on June 8, 1998. SCAG will need to have a new conformity finding by June 8, 2001. The regional emissions analyses for Imperial County are based on the build/no-build test for both PM_{10} and ozone. The design concept and scope of the proposed project has not changed from what is included in the RTP and TIP and therefore the proposed project comes from a conforming transportation plan and program. The proposed project fully conforms to the implementation plan's purpose of attaining and maintaining national ambient air quality standards.

The long-term operational effects of the proposed project on PM-10 emissions are also considered minor, since the PM-10 contributions from on-road motor vehicle sources on one of the emission inventories conducted by the California Air Resources Board constitutes only 5 % of the Imperial County Emissions Inventory.

The project-level analysis contained in this document demonstrates that the "Build" scenario does not cause or contribute to any new localized PM_{10} or CO violations or increase the frequency and severity of any existing PM_{10} or CO violations. The PM_{10} and CO qualitative considerations indicate that none of the build alternatives would exceed federal or state standards or adversely impact any of the sensitive receptors evaluated. The assumptions used in the project-level analysis are consistent with the assumptions used in the regional emissions analysis. Therefore this project is found to be in conformity with the State Implementation Plan (SIP) and is consistent with the requirements of the federal transportation conformity rule.

HYDROLOGY AND WATER QUALITY IMPACTS

Potential impacts include both short-term (construction) and long-term (operational) effects such as erosion/sedimentation, hazardous materials spills, vegetation removal, disposal of groundwater, generation of contaminants and roadway maintenance. Each alternative would have short-term impacts to fresh water within canals. These impacts would potentially occur during canal relocation and reconstruction, however no substantial effect on water quality, or beneficial uses of surface waters or ground water, are expected from project construction or long-term facility operation. The proposed project would be designed to direct drainage away from fresh water supply canals. No inconsistencies with Federal, State or local water quality standards or the Clean Water Act requirements are anticipated. The proposed project (both construction and operation) would not violate any State-adopted or EPA-approved water quality standards, nor would it impair any protected uses for the Salton Sea or any other surface or groundwater. The three build alternatives present negligible differences in level of impacts.

Construction activities would extend into areas previously used for agricultural activities. These areas may contain chemical residues from the use of pesticides, herbicides and/or fertilizers. Any release of hazardous materials could impact beneficial uses of downstream waters and groundwater.

Mitigation Measures

We propose to mitigate construction related erosion using best management practices as outlined in the Caltrans Storm Water management Plan and Quality Handbooks, the Contractors Guide and Specifications, and the use of applicable Best Management Practices (BMPs) such as:

- Use soft bottom drainage channels and detention basins wherever possible.
- Maximize erosion control during construction and the ultimate project condition.
- Revegetate slopes with native plants, where appropriate.

FLOODPLAIN ASSESSMENT

The proposed project would result in crossings of the New River for all build alternatives. The 100-year floodplain is located within the channel which encompasses the New River. This channel includes a series of agricultural fields, drains, access roads, open space, and the Brawley Sewage Treatment Plant.

For each build alternative, the river crossings would include short-span bridges elevated above the river flood elevations. The Fredricks Alternative encroaches on 3 ha (8 acres) of the base 100-year Floodplain, the Del Rio Alternative encroaches on 4 ha (9 acres), and the Del Rio North Alternative encroaches on 7 ha (18 acres). All three alternatives present low flooding risk. The low risk assessment is based on the fact that no measurable increase in the flooding potential for disruption of services or flood related cost is anticipated.

Direct physical effects of the project on the 100-year Floodplain at the New River crossing locations would be limited to temporary construction impacts and the permanent, but not substantial, effects of the placement of fill and supporting piers within the 100-year Floodplain.

The project would not support incompatible 100-year Floodplain development. None of the project alternatives would provide new access or direct access to the New River 100-year Floodplain. The proposed project is a controlled-access facility and would cross the 100-year Floodplain either on fill or on structures well above the 100-year Floodplain elevation. Currently much of the 100-year Floodplain is in agriculture or undeveloped land and is expected to remain in similar use.

Mitigation Measures

Routine construction procedures required by Caltrans for the highway will minimize impacts to the floodplain during construction. These procedures include limiting the area affected by construction, employing best management practices to control erosion and runoff, and prohibiting access to designated Environmentally Sensitive Areas (ESAs) where appropriate. Physical disturbance of the 100-year Floodplain may be minimized by constructing sections of the bridges off-site, and transporting them to the site, rather than by building forms and falsework, casting sections, and removing forms on-site.

GEOLOGIC, SOILS, AND SEISMIC IMPACTS

Each of the proposed project alternatives would encroach on alluvial soils that would be potentially liquifiable during a seismic event. All of the proposed alternatives would potentially be impacted by the Imperial Valley fault or branches thereof. Differential settlement and displacement may occur due to soil liquefaction and could result in roadway, bridge crossings, or structure damage. Other areas susceptible to liquefaction and land spreading include drainage ways and canals, especially where the proposed project crosses these facilities. Water retention basins that may be constructed near the proposed project also present a potential surface for land spreading to occur.

Measures to Minimize Risk

Caltrans routinely incorporates appropriate measures in project design to address seismic risk and soil stability and erosion. Locally excavated material and imported borrow selected by the construction contractor and approved by Caltrans would be used for the road base and embankments. All environmental approvals and permits for imported fill from material sites would be the responsibility of the construction contractor. Local soils would be amended with imported soils when recommended by the Caltrans geologist to improve their resistance to liquefaction and to minimize soil erosion.

The potential for liquefaction and land spreading due to seismic activity would be addressed through a separate detailed geotechnical investigation of the selected alternative during the final design phase of the project. Potential seismic activity impacts would be addressed by implementing Caltrans standard design and construction procedures. Project-specific recommendations, including specific design measures, would be presented in the project materials, foundation and geotechnical design reports. These reports would be prepared during the final design phase of the project, and recommendations would be based on subsurface exploration, laboratory testing, and engineering analysis.

HISTORIC AND ARCHAELOGICAL RESOURCES

The project would have no impact on any archaeological resources in the study area.

On April 16, 1999 the State Historic Preservation Officer (SHPO) concurred in the FHWA determination that: 1) the studies to date have been adequate; 2) no cultural resources that are eligible or potentially eligible for inclusion on the National Register of Historic Places are located within the Area of Potential Effect (proposed right-of-way). The SHPO letter is provided in Appendix E.

HAZARDOUS MATERIALS

An Initial Site Assessment was performed by Caltrans to evaluate whether any potential hazardous waste sites were present within the project study area. A review was made of historical records and regulatory lists, including federal and state databases, and a visual search of each build alternative corridor was also completed to identify anything not available in the records search. A review of the Del Rio and the Del Rio North Alternatives indicated there are no direct hazardous waste impacts. However, there are two potentially hazardous sites on the Fredricks Alternative.

Within the Fredricks Alternative, the first site of potential concern includes a parcel within the proposed right of way footprint that has both aboveground and underground fuel storage tanks. A preliminary Site Investigation at this site showed considerable ground contamination of both gasoline and diesel fuels.

The second potentially hazardous site within the Fredricks Alternative footprint revealed two abandoned cars and six abandoned barrels with unknown contents. A site investigation found some minor pesticide contamination but none that exceeded the TTLC (Total Threshold Limit of

Concentration) of DDE and DDT. These results are considered normal background levels for an agricultural area.

Measures to Minimize Harm

With the Fredricks Alternative, the property which has the aboveground and underground fuel storage tanks cannot be avoided. The Caltrans Hazardous Waste Coordinator would arrange for a Detailed Site Investigation to be conducted for verification of the extent of the hazardous waste at the site. Before acquisition of any property having hazardous waste, Caltrans would require the current owner to remediate the property, including any superficial soil stains. The cost to remediate the contaminated soils for diesel and gasoline will be approximately $300,000. That includes excavation, transportation and disposal.

Any of the three build alternatives would cross the New River, which is contaminated with sewage and industrial waste from Mexico. Elevated levels of fecal coliform exist in the New River and the nearby soils. Once the soils are dry the fecal coliform levels abate within 24 hours. Special health and safety considerations would be required from contractors at the three alternative crossing locations.

Caltrans standard specifications and requirements would be followed regarding hazardous materials. Grading and construction activities would be monitored to identify such materials. If unexpected hazardous materials are discovered during construction, the resident engineer would halt work in the area of concern, flag the area, and notify the Caltrans District Hazardous Waste Coordinator. When appropriate, the Coordinator would initiate the District's hazardous materials program to notify a HAZMAT team in the region, arrange for waste sampling and identification, and follow established procedures for cleanup. Best Management Practices would be used as applicable. This would include measures to avoid or minimize the potential influx of contaminants into local runoff and surface waters. Such measures may include the use of vegetation-lined retention drainage channels.

CONSTRUCTION IMPACTS

Construction activities can cause temporary impacts with respect to air quality, noise levels, erosion, and access or traffic circulation. These impacts are not considered substantial due to their temporary nature. However, these impacts could be substantial if they occurred during harvest season. The proposed project would temporarily impact local traffic causing some delays and disrupting access. The Fredricks Alternative, Variation 1, would require a temporary detour of existing SR-111 during construction. The temporary closure of Best Road for the Del Rio North Alternative would require through traffic to be rerouted. Fire and safety service providers, and local businesses may experience minor delays.

Mitigation Measures

Air Quality

- Compliance with Caltrans' Standard Specifications (1999) Section 10 "Dust Control".
- Compliance with Caltrans' Standard Specifications regarding air pollution control.
- Apply water to site and equipment as frequently as necessary to control dust.

- Spread water as a soil binder on unpaved roads, parking areas and on site.
- Wash off trucks / equipment before leaving the site, as necessary.
- Properly tune and maintain equipment.
- Use low-sulfur fuel for equipment.

Noise

- No pile driving at night or on weekends near sensitive receptors.
- If noise barriers are proposed, they will be constructed as a first order of work where feasible. If not feasible as a first order of work, temporary barriers will be constructed until such time that proposed barriers can be constructed.

Water Quality

- Compliance with Caltrans' Standard Specifications, and NPDES permit.
- Use of Best Management Practices to minimize erosion and sedimentation.

Traffic Circulation and Access

- Phase construction to minimize traffic impacts.
- Caltrans will coordinate with local businesses and property owners to minimize disruption during harvest season.
- Preparation of a traffic management plan, which ensures that clearly identifiable access to and from homes and businesses will be retained.
- Regional circulation will be maintained and local circulation will be accommodated via detours.
- A public awareness program will be developed to inform the public of the upcoming detours and construction schedule.
- Emergency providers (fire, police, and medical) will be informed of all detours. Pedestrian and bicycle access will be maintained.
- Construction signage, signalization, or flagpersons will be used as needed during construction in areas with pedestrian and/or equestrian access.

The duration of the construction period would be approximately 24 months.

CUMULATIVE IMPACTS

Natural Environment/Biological Resources

Adverse impacts resulting from the Brawley Bypass and other related projects could include an increase in urban development throughout the surrounding agricultural areas. As urban development replaces agriculture in the area, many of the species that currently use the agricultural fields and drains would be forced out. Development may also extend out into remaining native areas.

Farmland

The total direct farmland impacts from Caltrans' projects is over 1012 ha (2500 acres). Impacts from known projects by others and potential induced growth would add to this total. The acreage figures provided above include non-farmable remnants (indirect impacts in the immediate location). Of the 372 ha (920 acres) of farmland impacted on SR-86 Riverside County, 94 ha (232 acres) were under active farming/irrigation. Most of the land held the potential for farming and several high intensity agricultural operations were impacted.

Visual

The proposed project would incrementally contribute to cumulative changes within the viewshed from rural to semi-urban. This project, and other regional highway projects including SR-78/86, SR-111, SR-7 and SR-98, would implement the cumulative changes. These projects, along with possible highway-oriented development, would result in a change in visual quality and character in this primarily rural agricultural landscape.

ENERGY

The proposed project would not create additional traffic in the short term, and would improve traffic flow by providing a more direct connection between SR-78 and SR-111. Delays at traffic signals located in the city of Brawley would be avoided. This would result in a more efficient transportation system. The energy requirement of the build alternatives under consideration would be similar and generally greater than the no-build alternative during the time of construction. However, post construction operational requirements of the facility should be less with the build alternative as opposed to the no-build alternative, and the savings in operational energy requirements would more than offset construction energy requirements and thus, in the long term, result in a net savings in energy savings. For example, the levels of service for all of the build alternatives would be at LOS B compared to LOS F for the no build alternative in 2020. As a result, travel using the build alternative would result in improved level of service and a reduction in energy consumption.

AREAS OF CONTROVERSY

There is widespread support for the proposed project; citizens and their representatives appear to believe the project is needed. The project is not controversial in the Brawley area. There are different opinions regarding alternative selection. There is no known opposition to the project. Nevertheless, the document will be available for public review. The Draft EIS and technical studies (see page 4-1 list), except for the Historic Property Survey Report, which contains sensitive archaeological information, will be available for review at these locations:

Caltrans District Office, 2829 Juan Street, San Diego, California.
Brawley Public Library, 400 Main Street, Brawley, California
Imperial Valley College Library, 380 East Aten Road, Imperial, California
Imperial County Public Works Department, 155 South 11th Street, El Centro, CA

ISSUES TO BE RESOLVED

Relevant issues to be resolved before implementation of this project are listed below. Impact issues are fully discussed in Chapter Four.

- Selection of project alternative.
- If the Fredricks Alternative is selected, a decision must be made whether an interchange or intersection would be built at SR-111.
- Specifics regarding biological resource mitigation is pending consultation with resource agencies.
- Detailed drainage design and drainage features, including decisions on size and location of detention basins; consultation with city of Brawley/ Imperial Valley Irrigation District are ongoing.
- Final Relocation Impacts.
- Decision to close or keep open the railroad crossing at Shank Road.

PERMITS, REVIEWS, AND APPROVALS REQUIRED

The following permits, reviews, and approvals are required for project construction:

United States Environmental Protection Agency	Review and comment on Air Quality technical report and the Section 404 Permit.
United States Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species. Review and Comment on Section 404 Permit
United States Army Corps of Engineers	The Frederick Del Rio and Del Rio North alternatives qualify for a Nationwide permit 14, *Linear Road Crossings*
California Department of Fish and Game	1601 Streambed Alteration Agreement would be required for impacts to CDFG jurisdictional areas
California Department of Fish and Game	Section 2080.1 certification for threatened and endangered species.
California Transportation Commission	Approve Route Adoption.
Regional Water Quality Control Board	Section 401 certification (or waiver thereof). Section 402 Water Discharge Permit/ Notice of New Construction (Form).
Freeway Agreement	city of Brawley, County of Imperial

Table S-1
Summary of Project Alternative Impacts

Impact Category	Fredricks Alternative (Variation 1)	Fredricks Alternative (Variation 2)	Del Rio Alternative	Del Rio North Alternative
Farmland				
Prime	66 ha (162 ac)	66 ha (162 ac)	57 ha (140 ac)	57 ha (140 ac)
Statewide	91 ha (224 ac)	110 ha (272 ac)	117 ha (289 ac)	129 ha (319 ac)
Total	157 ha (386 ac)	176 ha (434 ac)	174 ha (429 ac)	186 ha (459 ac)
Species of Concern	12 burrowing owls, *Mountain Plover, Yuma Clapper Rail, Southwestern Willow Flycatcher	12 burrowing owls, *Mountain Plover, Yuma Clapper Rail, Southwestern Willow Flycatcher	6 burrowing owls, *Mountain Plover, Southwestern Willow Flycatcher	14 burrowing owls, *Mountain Plover, Southwestern Willow Flycatcher
Floodplains Encroachment	3 ha (8 ac)	3 ha (8 ac)	4 ha (9 ac)	7 ha (18 ac)
Irrigation Canals	9 canals (1525 m/ 5003 ft)	9 canals (1525 m/ 5003)	6 canals (578 m/ 1896 ft)	6 canals (964 m/ 3162 ft)
Laterals	1 lateral (470.5 m/ 1543 ft)	1 lateral (1180 m/ 3871)	2 laterals (187.5 m/ 615 ft)	2 laterals (187.5 m/ 615 ft)
Drains	6 drains (1898 m/ 6227 ft)	6 drains (1898 m/ 6227)	11 drains (1796.5 m/ 5894 ft)	10 drains (1582.5 m/ 5192 ft)
Agricultural Drain Habitats (CDFG Regulated)	Approximately 1.12 ha (2.77 ac) at drains.	Approximately 1.12 ha (2.77 ac) at drains.	Approximately 0.82 ha (2.03 ac) at drains.	Approximately 0.56 ha (1.38 ac) at drains.
Waters of the US	0	0	0	0
Wetlands/Woodlands	3.03 ha (7.48 ac) CDFG Jurisdictional Woodland. 0.17 ha (0.42 ac) ACOE Jurisdictional Wetland.	2.99 ha (7.40 ac) CDFG Jurisdictional Woodland. 0.17 ha (0.42 ac) ACOE Jurisdictional Wetland.	3.48 ha (8.60 ac) CDFG Jurisdictional Woodland. 0.004 ha (0.01 ac) ACOE Jurisdictional Wetland.	0.83 ha (2.05 ac) CDFG Jurisdictional Woodland.
Homes Displaced	0	0	1	1
Business Impacted	**1.) La Bolsa, Inc.** 2.) Del Rio Country Club 3.) Imperial Grain Growers 4.) Lesicka (5 lessees) 5.) ETX 6.) Future Farmers of America (FFA)	**1.) La Bolsa, Inc.** 2.) Del Rio Country Club 3.) Imperial Grain Growers 4.) Lesicka (5 lessees) 5.) ETX 6.) Future Farmers of America (FFA)	1.) Jerge School of Horsemanship 2.) Triangle Feeders 3.) Del Rio Country Club	1.) Triangle Feeders
Hazardous Waste	Gasoline and diesel contamination.	Gasoline and diesel contamination.	No hazardous materials involvement.	No hazardous materials involvement.
Alignment Length	12.4 km (7.7 miles)	12.4 km (7.7 miles)	15.4 km (9.6 miles)	16.6 km (10.3 miles)
Cost:				
Roadway-	$40,568,000	$42,377,000	$39,554,000	$42,641,000
Structures-	$7,115,000	$11,975,000	$5,956,000	$6,733,000
Right of Way-	$11,733,000	$12,673,000	$9,002,000	$10,032,000
Total Cost	$59,416,000	$67,025,000	$54,512,000	$59,406,000

*The impact to Mountain Plover, Yuma Clapper Rail, and Southwestern Willow Flycatcher is to their foraging habitat.